LAB EXERCISE REPORT FOR WEEK 4

BITP 3123 Sem 2 2020/2021

Adhwa Danish Bin Mohamad Noor
B031910461

Table of Contents

Document Information

This document described the solutions and outcomes for Lab 4.

Solution for Exercise 3

Client.java

```
package Exe3Method1;

import java.io.IOException;
import java.io.PrintStream;
import java.net.Socket;
import java.net.UnknownHostException;
import java.util.Scanner;
import java.io.DataInputStream;
import java.io.DataOutputStream;
import java.net.InetAddress;


public class Client
{
		public static void main(String args[])throws UnknownHostException, IOException
		{
			//define variable
			String text;

			//create object, syntax for input
			Scanner sc= new Scanner(System.in);

			Socket s = new Socket("127.0.0.1",4646);

			//create output stream, utk send ke server
			DataOutputStream outputStream = new DataOutputStream(s.getOutputStream());

			//output
			System.out.println("Enter Any Words: ");

			//input syntax
			text=sc.nextLine();

			//send data to server, send text yg client tulis
			outputStream.writeUTF(text);
			outputStream.flush();

			//create input stream, utk baca dari server
			DataInputStream dataIn = new DataInputStream(s.getInputStream());

			//read from server
			int textword = dataIn.readInt();


			//kt sini print number of word sent dri server
			System.out.print("Number of Words: ");
			System.out.println(textword);
		}

}
```

Server.java

```
package Exe3Method1;

import java.io.IOException;
import java.io.PrintStream;
import java.net.ServerSocket;
import java.net.Socket;
import java.util.Scanner;
import java.io.BufferedReader;
import java.io.DataInputStream;
import java.io.DataOutputStream;
import java.io.InputStreamReader;

public class Server
        {
                private static final String String = null;

                public static void main(String args[]) throws IOException
                        {
                                String words;
                                int count=0;
                                ServerSocket s1=new ServerSocket(4646);

                                //accept client request
                                Socket exe3=s1.accept();

                                //create input stream, utk baca dari client
                                DataInputStream dataIn = new DataInputStream(exe3.getInputStream());


                                //read data from client, pakai readUTF sebab String
                                words=dataIn.readUTF();

                                //call method
                                count=countWord(words);

                                //Create output stream to send back to client
                                DataOutputStream dataOut = new
DataOutputStream(exe3.getOutputStream());

                                //send data kt client, pakai writeInt sebab integer
                                dataOut.writeInt(count);
                                dataOut.flush();

                                //Close everything
                                s1.close();
                                exe3.close();
                                dataIn.close();
                                dataOut.close();

                        }


        public static int countWord(String words)
        {

            if(words.isBlank())
            {
                return 0;
            }

            int count = 0;

            for(int index = 0;index<words.length() -1 ;index++)
            {
                if(words.charAt(index) == ' ' && words.charAt(index +1) != ' ')
                {
                    count += 1;
                }
            }
            return count + 1;
        }
}
```

Output

```
Enter Any Words:
Selamat Berpuasa
Number of Words: 2
```

Solution for Exercise 5

ClientSide.java

```
package Exe5;

import java.io.DataInputStream;
import java.io.DataOutputStream;
import java.io.IOException;
import java.net.InetAddress;
import java.net.Socket;
import java.util.Scanner;


public class ClientSide {

	public static void main(String[] args) {

		try {

			//Connect to the server at localhost for port 4646
			Socket socket = new Socket(InetAddress.getLocalHost(),4646);

			//Create input object
			Scanner sc = new Scanner(System.in);

			//create output stream, utk send ke server
			DataOutputStream outputStream = new
DataOutputStream(socket.getOutputStream());

			//Display
			System.out.println(" ----------------------------------------------------------------------------");
			System.out.println("\t	Client Side");
			System.out.println(" ----------------------------------------------------------------------------");
			System.out.println("  ");

			//Input From User
			System.out.print("Enter Words In English: ");
			String text =(sc.nextLine());

			//send data to server, send text yg client tulis
			outputStream.writeUTF(text);
			outputStream.flush();

			//create input stream, utk baca dari server
			DataInputStream dataIn = new DataInputStream(socket.getInputStream());

			//assign object to read data from server
			String translatedText = dataIn.readUTF();

			System.out.println("\nTranslated text: " );
			System.out.println("\nMalay		Arabic		Korean");
			//print translated text sent from server
			System.out.println(translatedText);

			//Close everything
			outputStream.close();
			sc.close();
			socket.close();
			dataIn.close();

		} catch (IOException e) {
			// TODO Auto-generated catch block
			e.printStackTrace();
		}

	}

}
```

ServerSide.java

```
package Exe5;

import java.io.BufferedReader;
import java.io.DataInputStream;
import java.io.DataOutputStream;
import java.io.IOException;
import java.io.InputStreamReader;
import java.net.ServerSocket;
import java.net.Socket;

        public class ServerSide {

                public static void main(String[] args) throws Exception {


                        ServerSocket serverSocket = null;

                        try {


                                //Bind Serversocket to a port
                                int portNo = 4646;
                                serverSocket = new ServerSocket(portNo);

                                System.out.println(" ----------------------------------------------------------------------------");
                                System.out.println("\t       Server Side");
                                System.out.println("\t..Waiting for request...");
                                System.out.println("\t        ...Running...");
                                System.out.println(" ----------------------------------------------------------------------------");
                                System.out.println("  ");


                                while(true) {

                                        //Accept client request for connection
                                        Socket clientSocket = serverSocket.accept();

                                        //Create stream to read data from client
                                        DataInputStream dataIn = new
DataInputStream(clientSocket.getInputStream());

                                        //create new object for translator
                                        Translator message = new Translator();

                                        //assign text read from client
                                         message.setText(dataIn.readUTF());


                                         //Object to store text
                                         String text = message.getText();


                                         //Translate the text
                                        Translator textToTranslate = new Translator(text);

                                        //Create stream to write data to the network
                                        DataOutputStream dataOut = new
DataOutputStream(clientSocket.getOutputStream());

                                        //Send data to the client
                                        dataOut.writeUTF(textToTranslate.getTranslatedText());
                                        dataOut.flush();

                                        //close the socket
                                        clientSocket.close();
                                        dataIn.close();
                                        dataOut.close();

                                }
```

```
                }catch(IOException ioe) {

                        if(serverSocket != null)
                                serverSocket.close();

                        ioe.printStackTrace();

                }
        }
}
```

Translator.java

```
package Exe5;

public class Translator {

        private String text;

        public Translator(String text) {

                this.text=text;
                //this.language=language;


        }

        public Translator() {



        }

        public void setText(String text) {

                this.text=text;

        }

        public String getText() {

                return text;

        }


        public String getTranslatedText() {

                String translatedText = "";

                if(text.contentEquals("Good Morning")||text.contentEquals("Good
morning")||text.contentEquals("good morning")) {

                        translatedText="Selamat Pagi                الخير              좋은 아침";

                }


                else if (text.contentEquals("Good Night")||text.contentEquals("Good
night")||text.contentEquals("good night")) {

                        translatedText="Selamat malam        مساء الخير          안녕히 주무세요";
```

```
                }
            else if (text.contentEquals("How are you?")||text.contentEquals("how are you?")) {

                    translatedText="Apa khabar?  كيف حالكم؟  어떻게 지내세요?"
;

                }
        else if (text.contentEquals("Thank you")||text.contentEquals("thank you")) {
                    translatedText="Terima kasih  ثالثرا جزيال  감사합니다";

                }
            else if (text.contentEquals("Goodbye")||text.contentEquals("goodbye")) {

                    translatedText="Selamat Tinggal  مع السالمة  안녕";

                }
            else if (text.contentEquals("What's up?")||text.contentEquals("what's up?")) {

                    translatedText="Ada apa?  ما أخبارك؟  뭐야?";

                }

            return translatedText;
        }
}
```

Output

```
-----------------------------------------
            Server Side
       ...Waiting for request...
            ...Running...
-----------------------------------------
```

```
-----------------------------------------------
            Client Side
-----------------------------------------------

Enter Words In English: good morning

Translated text:

Malay               Arabic          Korean
Selamat Pagi          الخير         좋은 아침
```

https://github.com/adhwa10/DAD-lab4